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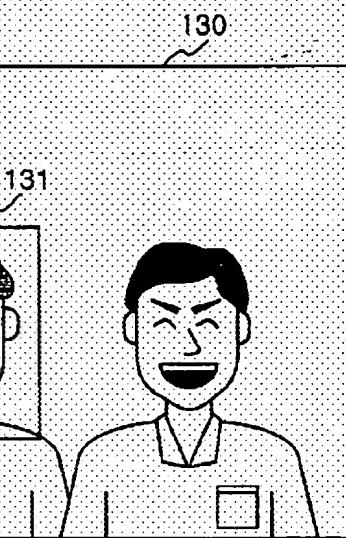
Current US Classification, US Primary Class/Subclass - CCPR (1)
348/333.03

Summary of Invention Paragraph - BSTX (25)

[0023] Furthermore, when an object to be picked up in the maximum imaging visual field is previously picked up and displayed in the first frame, an operator can select a portion which he or she intends to image more properly and can control the camera in the corresponding direction and to the corresponding zoom value.

Sheet 11 of 20 US 2001/0040636 A

FIG. 11



	U	Document	Issue D
1		US 2001111 2001004063 15	CAMERA/GRAPHIC A1
2		US 2001088 2001001390 16	Image select/computer A1
3		US 2001088 2001001056 02	Image select/computer A1
4		US 6191819 20010220	Picture-taking means B1

To achieve the above second object, a size display system for an electronic still camera according to the present invention comprises image sensing system means for converting an image of an object focused on an image sensor through a lens system into an image signal; lens and iris control means for obtaining in-focus information, zoom information, distance information and iris

information about the object image focused on said image sensor, NRZ writing means for making conversion into an NRZ signal; a recording medium having a special region where a signal other than said image signal of the object is stored by being recorded with an NRZ recording technique; an NRZ reading circuit for making inverse conversion of the NRZ signal; select means for selecting; whether size display is to be made or not; a scale display circuit for generating a scale pattern and numerical values for graduations; and control means having a function of calculating size display data based on said in-focus information, zoom information, distance information and iris information, causing said in-focus information, zoom information, distance information and iris information or said size display data to be NRZ-converted by said NRZ writing means and recorded in the special region of said recording medium in photographing, and causing the contents of the special region of said recording medium to be read out and demodulated into the original signal format.

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5,331,419



	U	Document	Issue D	
3		US 200108 2001001056 1-A1	200108 02	Image se
4	c	US 6191819 B1	200102 20	Picture-t means
5		US 5331419 A	199407 19	Size disp
6		US 5557328 A	199609 17	Video ca

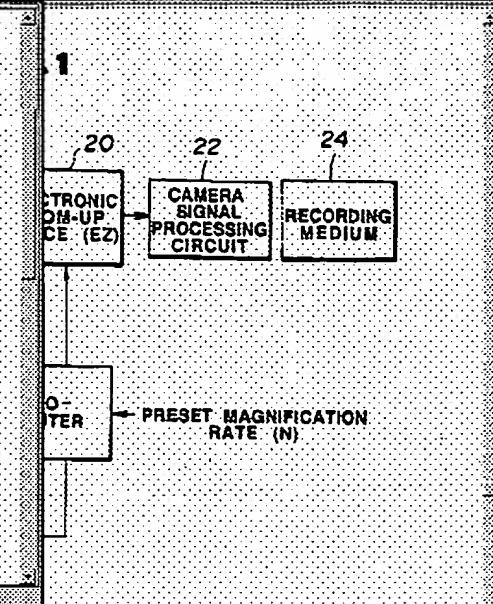
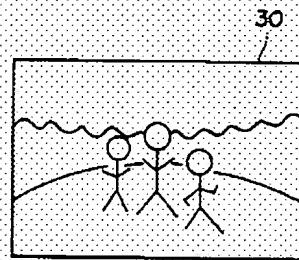
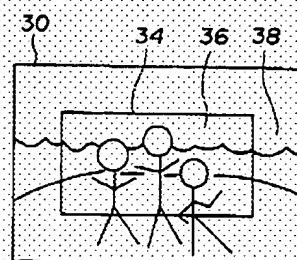


Claims Text - CLTX (11)

indicator means for visually indicating a partial area of the image displayed by said display panel which corresponds to the magnified image to be recorded when the selected magnification rate exceeds the second maximum magnification rate of said second zoom-up means, wherein the entire image displayed on said display panel corresponds to the image to be recorded when the second maximum magnification rate of said second zoom-up means is not less than the selected magnification rate.

Claims Text - CLTX (13)

3. A video camera as claimed in claim 2, wherein said liquid crystal device of said indicator means provides a line forming a frame surrounding the partial area of the image displayed by said display panel which corresponds to the image to be recorded, the frame being variable in size according to the selected magnification rate when the selected magnification rate exceeds the second maximum magnification rate of said second zoom-up means.

**FIG. 2****FIG. 3**

U Document Issue D			
4	US 6191819 200102	Picture-taking means	
5	B1	20	
5	US 5331419 199407	Size display	
6	A	19	
6	US 5557328 199609	Video camera	
	A	17	

A video display control system according to another inventive arrangement comprises a video display having a first format display ratio. A picture height circuit determines an active video picture height from an input video signal having a second format display ratio. A detector circuit identifies letterbox formats responsive to the active video picture height in the video signal and determines a format display ratio of the letterbox picture. A zoom control circuit is operable in a first mode of operation for enlarging the picture in size to fill the display substantially entirely, notwithstanding consequent cropping of the picture, and operable in a second mode of operation for enlarging the picture in size to substantially fill the display vertically, notwithstanding consequent unused portions of the display. A vertical pan control circuit automatically centers the picture in both modes of operation. The detector can identify the format display ratio of the letterbox format picture. A circuit responsive to the identified format display ratio controls image aspect ratio distortion of the enlarged picture. A deflection system is controllable in vertical size by a variable vertical scan rate, in horizontal size by variable horizontal video expansion and compression, and in pan position by varying the vertical reset in phase.

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5,309,234

4x3

FIG. 1(b)

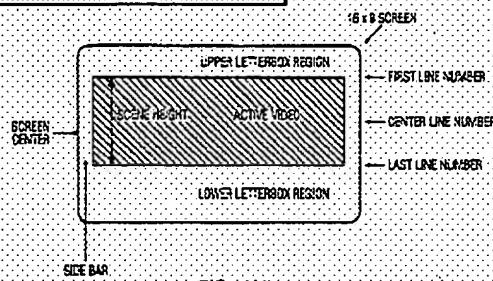


FIG. 1(d)

U Document Issue D			
1	US 5309234 199405	Adaptive	03
2	US 200210 200210	Automat	
	2002014968	17	
	1 A1		
3	US 200306 200306	Camera	
	2003010315	05	
	6 A1		
4	US 6559888 200305	Digital ca	
	B1	06	digital zo

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Detailed Description Text - DETX (23)

Digital zooming is another form of zooming that is only available in a digital camera. Digital zooming is effected by a series of steps that include 1. converting light via a charged coupled device 15 into an electrical analog signal that is indicative of the captured image, 2. converting the analog signal into a digital signal that is also indicative of the captured image, 3. coupling the digital signal to internal microprocessor 25 for storage, 4. processing zooming commands initiated by the activation of zooming switches such as a zoom in switch 30 and a zoom out switch 32, 5. sending a digital zoom command to the charged coupled device 15, and 6. converting the digital command into an analog signal via a digital to analog converter 58 that causes the charged couple device 15 to crop the image capture area so that only a subset of the image pixels are stored in an available storage or recording medium, such as on a removable memory card 54 or in an internal memory storage device 84 as illustrated in FIG. 1.

effect respective zoom in lens in both an optical zoom mode of operation. A zoom switch is provided to switch to a next zoom factor by one incremental amount. The zoom factor is not equal to a factor of about D_n to facilitate a next incremental optical zoom factor product of individual optical digital zoom factor range. A zoom control arrangement is provided to control a zoom switch when the current zoom control setting is a minimum digital zoom factor or a minimum optical zoom factor. A zoom control arrangement is provided to facilitate a next lower optical digital zoom factor.

	U	Document	Issue	D
2		US r 2002014968	200210 17	Automat
		1 A1		
3		US c 2003010315	200306 05	Camera
		6 A1		
4		US 6559888 r B1	200305 06	Digital ca
				digital zo
5		US 5978016 r A	199911 02	Electroni
				02

CHARACTERISTICS

17 Claims, 8 Drawing Sheets

Optical + 2X Digital Zoom

Optical + 1.5X Digital Zoom

Detailed Description Text - DETX (52)

The computer operator can perform a variety of image processing functions on digital images downloaded from the camera. For example, image processing software can be utilized in the host computer 232 to perform zoom, pan and crop functions on any portion of a displayed image, attach special borders for special occasions, and print the edited images on a printer. Image data generated by the host computer 232 can be transferred back to the camera to update the image information files of film mode images stored in the base camera memory 126 or of hybrid mode and digital mode images contained in a memory card coupled to the interface connector 130. In addition, data generated by the host computer can be transferred to the camera for writing on the magnetic layer of the photographic film by the magnetic head 108. Accordingly, a computer operator can generate photo-finishing data on the host computer 232 and transfer the photo-finishing data directly to the photographic film in the camera, such that when the film is presented to a photo-finisher, the data can be retrieved from the photographic film and utilized in a photo-finishing operation. Still further, album images contained in the host computer 232 can be transferred to the camera for storage in the album image storage section 125 of the base camera memory 126.

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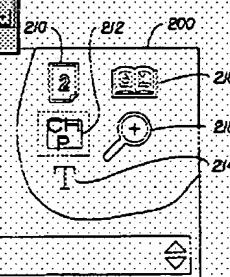
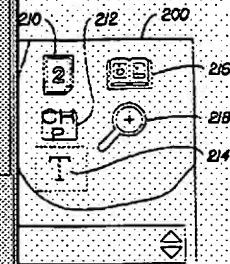


FIG. 12

U (Document) Issue D			
3	US 200306 Camera		
	r 2003010315 05		
	6 A1		
4	US 6559888 200305 Digital ca		
	c B1 06 digital zo		
5	US 5978016 199911 Electron		
	r A 02		
6	US 200210 Electron		
	r 2002015898 31 image		

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focal length enabling zoom ratios for lens 12 of approximately 1X, 1.25X or 1.5X. While the longer of the two focal lengths for digital lens 22 is selected to enable a zoom ratio of approximately 1.75X for digital lens 22, when film lens 12 is at its focal length enabling zoom ratios for lens 12 of approximately 1.75X or 2X. When lens 12 and 22 are substantially equally zoomed, i.e., both at approximately 1X or 1.75X, the 360 times 640 pixels stored in memory at step 82 approximately match the image captured on film 14 in terms of content and proportion, and all the pixels in the stored digital image can be used for later processing. However, when lens 12 and 22 are substantially unequally zoomed, i.e., the zoom ratio of film lens 12 is substantially greater than the digital lens 22, only a central window within the 360 times 640 pixels stored matches the image captured on film 14 in terms of content and proportion. Accordingly, digital images 84, 85 and 86 are cropped by microcontroller 34 to a central window of pixels 88, 89 and 90, respectively, and only this central window of pixel is used for later processing. The amount of cropping in the stored image depends on the difference between the zoom ratios of lens 12 and 22 when the image was captured, such that more is cropped if lens 12 is at 1.5X, than at 1.25X or 2X.

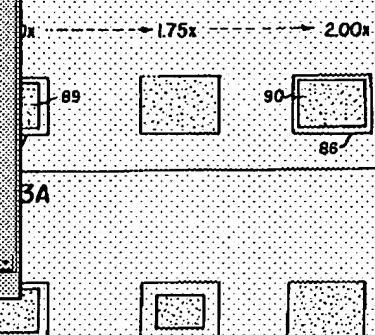


FIG. 3B

U Document Issue D

12	US 5262864	199311	Frame b
	<input checked="" type="checkbox"/> A	16	
13	US 5845166	199812	Hybrid c
	<input checked="" type="checkbox"/> A	01	electronic
14	US 5822625	199810	Hybrid e
	<input checked="" type="checkbox"/> A	13	
15	US	200302	Intelliger
	<input checked="" type="checkbox"/> 2003002581	06	

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Detailed Description Text - DETX (15)

Alternately, instead of using the default parameters for configurations 0 and 1 as shown in Table 2, the user can chose preferred parameter values using the user interface screens shown in FIG. 3, which appear on the computer monitor 16 when the user interface is enabled. More specifically, the user clicks on a "camera adjustments" icon 60 on a basic screen 62 in order to pull down a camera adjustments screen 64. By then clicking on an "advanced camera settings" icon 66, an advanced camera settings screen 68 is obtained, and so on through as many additional screens 70 as are needed. The computer would take the user settings and translate them into the appropriate configuration settings for the camera, e.g., the zoom setting would be translated into the crop windows. In this manner, the camera configurations may be customized for the specific application.

Current US Original Classification - CCOR (1)

348/231.6

Current OR		Current XRef
18	348/96	348/51; 348/79; 356/236
19	348/231.6	348/552
20	348/169	348/164
21	396/128	348/229.1; 396/429

